

REMARKS

On page 2 of the Action, the abstract of disclosure was objected to.

In reply thereto, applicant herewith submits a revised abstract in a separate paper to overcome the objection.

On page 2 of the Action, the disclosure was objected to because of the informalities.

In reply thereto, applicant has deleted "newly" on page 10, line 14 and changed "135" to --23-- on page 12, last line, and "35" to --23-- on page 13, line 1.

On pages 2-3 of the Action, claims 4-7 and 9-12 were rejected under 35 U.S.C. 102(b) as being anticipated by Kupcikevicius et al.

In reply thereto, applicant has amended claims 4 and 7 to define applicant's invention more clearly over the prior art of record.

As clearly defined in amended claims 4-7 and 9-12, applicant's invention comprises the intestine pushing member (6) for pushing the natural intestine casing (5) on the stuffing tube (4), the intestine receiving member (9) for receiving the natural intestine casing pushed by the intestine pushing member, and the intestine-pushing-member driving means (7) for pushing and advancing the intestine pushing member to the intestine receiving member. Thus, the distance from the intestine pushing member to the intestine receiving member is reduced.

With respect to the prior art, Kupcikevicius et al. discloses a stuffing apparatus, comprising a mounting plate (48), a sizing disc (62), and pneumatic cylinders (52 and 88).

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However, Kupcikevicius does not disclose or suggest any intestine pushing member driving means (7), which pushes and advances the intestine pushing member to the intestine receiving member. Also, Kupcikevicius does not disclose or suggest any intestine pushing member (6) which is adapted to move to reduce the distance from the intestine pushing member to the intestine receiving member. Kupcikevicius' mounting plate does not move to the sizing disc. They are both fixed on opposite ends of a support sleeve (46) and keep a constant distance therebetween.


The Action states that the pneumatic cylinder (88) is similar to the intestine pushing member driving means. However, the pneumatic cylinder (88) does not push the mounting plate to bring it closely to the sizing disc. The pneumatic cylinder (88) pushes and moves strut (82). Also, the pneumatic cylinder (52) does not push and move the mounting plate to bring it closely to the sizing disc but moves the support sleeve through a piston rod (50) and the mounting plate. Thus, the mounting plate does not move to the sizing disc.

For these reasons it is submitted that applicant's invention recited in claims 4-7 and 9-12 is patentable over Kupcikevicius.

On page 3 of the Action, it was noted that claim 8 would be allowable if rewritten in independent form.

In reply thereto, applicant has rewritten claim 8 in independent form and believes that it is in condition for allowance.

Applicant has added claims 13 and 14, in which the intestine-pushing-member driving means (7) comprises air blowing means (16) having an air nozzle (17) for directly blowing onto the intestine pushing member air (AA)



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for reducing the distance from the intestine pushing member to the intestine receiving member. The air nozzle is located at a position opposing the intestine receiving member with respect to the intestine pushing member.

With respect to the prior art, Kupcikevicius' pneumatic cylinders are not located at positions opposing the sizing disc with respect to the mounting plate. Also, the pneumatic cylinder (52) does not directly blow air onto the mounting plate.

For these reasons it is submitted that applicant's invention recited in claims 13 and 14 is patentable over Kupcikevicius.

Applicant added claims 15-17, in which the intestine pushing member (6) has the hollow cylindrical member formed of a resin with the metallic annular member (25) fitted around an outer periphery of the hollow cylindrical member. The intestine pushing member easily moves because of the resin which is a light material. In applicant's invention, since the intestine pushing member is moved by low air pressure, the intestine pushing member moves to a predetermined position without causing excessive compression of the shirred portion of the natural intestine casing, and is detected at the predetermined position by the detecting means (13) having the proximity switch.

With respect to the prior art, Kupcikevicius discloses or suggests neither intestine pushing member (6) of the resin nor detecting means (13) having the proximity switch.

For these reasons it is submitted that applicant's invention recited in claims 15-17 is patentable over Kupcikevicius.

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Also, applicant has amended claims 1 and 3 to add the features that the transporting means (11) has a pair of wrapping connectors (22). Accordingly, claims 4-15 (the apparatus) and claims 1-3 (the method) have the same or corresponding special technical features which are stated in the Office Action of 07/15/02 and, therefore, applicant respectfully requests that claims 1-3 also be examined.

The numbers of the total claims and independent claims are 17 and 4, respectively, and the fee in the amount of \$42 (small entity) for the independent claims in excess of three is enclosed. Also, one-month extension fee in the amount of \$55.00 is enclosed.

In view of the foregoing, it is respectfully requested that this application be reconsidered, claims 1-17 allowed, and this case passed to issue.

Respectfully submitted,

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VERSION WITH MARKING TO SHOW CAHNGES MADE



In the Specification:

Paragraph starting on page 10, line 9:

-- The apparatus 1 operates as follows. The stuffed natural intestine casing 12 is transported by the transporting means 11 at a predetermined speed, the straight portion 5B on the stuffing tube 4 is pulled out from the distal end 4A, and the shirred portion 5A, while passing through the hole portion 9B and the hole portion 10A by being pulled by the straight portion 5B, [newly] changes into the straight portion 5B, and moves on the stuffing tube 4 toward the distal end 4A, so that the length 11 of the shirred portion 5A decreases gradually. The straight portion 5B undergoes a reduction of its inside diameter by being pulled, and its inner surface is substantially brought into close contact with the outer surface of the stuffing tube 4.--

Paragraph starting on page 12, line 20:

--The controlling means 15 may be provided with a means for changing the transporting speed V of the transporting means 11 on the basis of the detection signal 14. As the means for changing the transporting speed V of the transporting means 11, it is possible to use a device for changing the number of revolutions of a shaft [135] 23. This device is, for example, a clutch brake attached to the shaft [35] 23, a number-of-revolution controlling device (an inverter, a driver for a servo motor) of the motor 24, or an electromagnetic switch for starting and stopping the motor 24. If the controlling means 15 upon receiving the detection signal 14 is arranged to decelerate the transporting speed V of the transporting means 11, the

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lengths 1 and LL can be shortened appropriately, so that this arrangement is suitable for use of the natural intestine casing 5 of the type which is difficult to slide on the stuffing tube 4.--

In the Claims:

--1. (Amended) A method for manufacturing natural intestine sausages, comprising the steps of:

fitting a natural intestine casing over a stuffing tube in a state in which the natural intestine casing is divided into a shirred portion and a straight portion;

causing an intestine pushing member to push and advance the shirred portion toward an intestine receiving member;

pinching the shirred portion by and between said intestine pushing member and said intestine receiving member;

detecting that said intestine pushing member has reached a predetermined position;

transporting, while constricting, the natural intestine casing stuffed with a material, by transporting means having a pair of wrapping connectors with constricting members fixed thereto at predetermined intervals;

pulling and moving the natural intestine casing on said stuffing tube by the transporting for a predetermined time after the detection, said stuffing tube having a distal end projecting from said intestine receiving member up to a position exceeding a common tangential line of a pair of locus circle depicted by said pair of constricting members [and sliding the natural intestine casing on said stuffing tube by transporting the

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natural intestine casing, stuffed with a material, by transporting means for a predetermined time after the detection]; and

stopping the discharging of the material into the natural intestine casing after the lapse of a predetermined time.

3. (Amended) The method for manufacturing natural intestine sausages according to claim 1, wherein said intestine pushing member moves toward said intestine receiving member by receiving [a pneumatic force by] air blown out into the atmosphere from an air nozzle provided in air blowing means.

4. (Amended) An apparatus for manufacturing natural intestine sausages including a stuffing tube having a distal end and adapted to stuff a material into a natural intestine casing having a rear end portion, material supplying means for supplying the material into said stuffing tube, and transporting means having a pair of wrapping connectors disposed forwardly of said distal end of said stuffing tube and adapted to transport the natural intestine casing[,] stuffed with the material, in a direction away from said distal end, said apparatus comprising:

an intestine pushing member for pushing [a] said rear end portion of the natural intestine casing on said stuffing tube;

[intestine-pushing-member driving means for pushing and advancing said intestine pushing member toward said distal end of said stuffing tube;]

an intestine receiving member having a hole portion through which said distal end of said stuffing tube is passed so that said distal end [of said stuffing tube]

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is located in such a manner as to project on a transporting-means side, said intestine receiving member being adapted to receive the natural intestine casing being pushed by said intestine pushing member;

intestine-pushing-member driving means for pushing and advancing said intestine pushing member toward said distal end of said stuffing tube so that a distance from said intestine pushing member to said intestine receiving member is reduced;

detecting means for detecting a position of said intestine pushing member and generating a detection signal; and

controlling means for stopping the operation of said material supplying means in response to the detection signal.

7. (Amended) The apparatus for manufacturing natural intestine sausages according to claim [4] 8, wherein said intestine-pushing-member driving means has air blowing means for blowing air onto said intestine pushing member.

8. (Amended) [The] An apparatus for manufacturing natural intestine sausages [according to claim 4] including a stuffing tube having a distal end and adapted to stuff a material into a natural intestine casing, material supplying means for supplying the material into said stuffing tube, and transporting means disposed forwardly of said distal end of said stuffing tube and adapted to transport the natural intestine casing stuffed with the material, in a direction away from said distal end, said apparatus comprising:

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an intestine pushing member for pushing a rear end portion of the natural intestine casing on said stuffing tube;

intestine-pushing-member driving means for pushing and advancing said intestine pushing member toward said distal end of said stuffing tube;

an intestine receiving member having a hole portion through which said distal end of said stuffing tube is passed so that said distal end is located in such a manner as to project on a transporting-means side, said intestine receiving member being adapted to receive the natural intestine casing being pushed by said intestine pushing member;

detecting means for detecting a position of said intestine pushing member and generating a detection signal;
and

controlling means for stopping the operation of said material supplying means in response to the detection signal, wherein said transporting means has a pair of wrapping connectors to which constricting members for constricting the natural intestine casing[,] stuffed with the material, are fixed at predetermined intervals, and each of said pair of wrapping connectors has a shaft, a locus circle depicted by a tip of each of said constricting members which respectively move about said shaft, and a common tangential line which is tangential to the pair of locus circles of said pair of wrapping connectors, and wherein said stuffing tube is disposed such that said distal end thereof is located between the tangential line and said shaft.-

In the Abstract:

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--The object is to provide a method and an apparatus for manufacturing natural intestine sausages, which excel in sanitation and make it possible to reduce the waste of a natural intestine casing and a material. An apparatus 1 for manufacturing natural intestine sausages includes a stuffing tube 4, an intestine pushing member 6, an intestine-pushing-member driving [means] device 7, an intestine receiving member 9, a braking member 10, a transporting [means] device 11, a detecting [means] device 13 for detecting the position of the intestine pushing member 6 with respect to the intestine receiving member 9, and a controlling [means] device 15 for stopping the operation of a material supplying [means] device 3. A distal end 4A of the stuffing tube 4 is positioned in such a manner as to project from the braking member 10 toward the transporting [means] device 11.--

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